REMARKS

Claims 1-3 and 7-9 are presented for further examination. Claims 1 and 7 have been amended. Claims 4-6 and 10-12 have been canceled.

In the Office Action mailed March 15, 2004, the Examiner rejected claims 1-5 and 7-11 under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,549,575 ("Butter et al."). Claims 6 and 12 were rejected under 35 U.S.C. § 103(a) as unpatentable over Butter et al. in view of U.S. Patent No. 5,706,059 ("Ran et al.").

Applicants respectfully disagree with the bases for the rejections and request reconsideration and further examination of the claims.

In the present invention, a reference data is stored in a separate memory divided into an even column memory, and an odd column memory. Each of the even column memory and the odd column memory is divided into n slices (n is a natural number greater than 2). In the case of three slices, the order of storing the reference data to the even column memory (or the odd column memory) and reading them from the respective column memory is well described in the specification as filed with respect to Figure 6. More particularly, dividing a down-sampled reference data into an even column and an odd column, sequentially writing data corresponding to one-third among the even column (or odd column) of the down-sampled reference data to the even column memory (or odd column memory) and reading the reference data stored in the even column memory (or odd column memory) in the order in which they were written.

As shown in Figure 6, with even column memory, data corresponding to one-third among the even column data was previously downloaded in a first slice (for example, "A") before the pipeline starts, and other data corresponding to one-third among the even column data is written in a second slice (for example, "B"), and the other data corresponding to one-third among the even column data is written in a third slice (for example, "C"). Next, new data corresponding to one-third among the new even column data is written in the first slice A. That is, the oldest slice A is updated into a new first slice as data C. In Figure 6, [ABC]→[CAB] means that new data C was written in the first slice A, and thus previous parts B and C were changed into new parts A and B, respectively. The meaning of the words A, B, and C is the order in which they were written. Then, the reference data stored in the even column memory

are sequentially read in the order in which they were written, *i.e.*, A→B→C. Accordingly, the present invention can implement a memory by the bandwidth of one-third in an actual pipeline operation.

Turning to the claims, claim 1, as amended, recites, *inter alia*, said even column memory and said odd column memory each are divided into n number of column blocks (n being a natural number over 2), a reference data corresponding to 1/n among the column data are sequentially written into each of said column blocks per motion estimation, wherein the reference data in the column block firstly written is updated with a new column data, and the reference data stored in each of the column blocks in the memory are sequentially read in the order in which they were written.

Ran et al., U.S. Patent No. 5,706,059, teaches at column 6, lines 42-67 and column 7, lines 1-13, the method data in a target block 301, 302, and 303 is read through a search window 311, 312, 313, respectively. A memory 210 is partitioned into three parts m1, m2, and m3. The right or left part of the search window is read into one part among the three parts. Nowhere does Ran et al. teach or suggest the features recited above in amended claim 1, *i.e.*, an even column memory and an odd column memory divided into n number of column blocks and a reference data corresponding to 1/n among the column data that are sequentially written into each of the column blocks per motion estimation, wherein the reference data in the column block first written is updated with a new column data and the reference data stored in each of the column blocks in the memory are sequentially read in the order in which they were written. In view of the foregoing, applicants respectfully submit that claim 1 is allowable and nonobvious in light of the combination of Butter et al. and Ran et al.

Independent claim 7 recites limitations similar to independent claim 1, as discussed above. Applicants respectfully submit that independent claim 7 is allowable for the reasons why claim 1 is allowable.

In view of the foregoing, applicants submit that all of the claims remaining in this application are clearly allowable over the references cited and applied by the Examiner. In the event the Examiner finds minor informalities that can be resolved by telephone conference, the Examiner is urged to contact applicants' undersigned representative by telephone at

(206) 622-4900 in order to expeditiously resolve prosecution of this application. Consequently, early and favorable action allowing these claims and passing this case to issuance is respectfully solicited.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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